

We Claim:

1. An isolated antibody directed against a *Neisseria meningitidis* serogroup B capsular polysaccharide derivative, wherein said antibody is not autoreactive.

2. The antibody of claim 1 wherein said antibody does not cross-react with *Neisseria meningitidis* serogroup B capsular polysaccharide (MenB PS) in an ELISA.

3. The antibody of claim 1 wherein said antibody displays functional activity against a *Neisseria meningitidis* serogroup B organism.

4. The antibody of claim 1 wherein said antibody is a monoclonal antibody.

20 5. A unique *Neisseria meningitidis* serogroup B epitope capable of being bound by the antibody of claim 1.

25 6. A unique *Neisseria meningitidis* serogroup B epitope capable of being bound by the antibody of claim 2.

30 7. A unique *Neisseria meningitidis* serogroup B epitope capable of being bound by the antibody of claim 3.

8. A unique *Neisseria meningitidis* serogroup B epitope capable of being bound by the antibody of claim 4.

9. A hybridoma that produces the monoclonal antibody of claim 4.

10 5 10. The hybridoma of claim 9 having the identifying characteristics of a hybridoma cell line selected from the group consisting of SEAM-2 (ATCC No. CRL-12380), SEAM-3 (ATCC No. HB-12170), SEAM-12 (ATCC No. HB-12169), and SEAM-18 (ATCC No. CRL-12381).

10 10 11. A method for isolating a molecular mimetic of a unique epitope of *Neisseria meningitidis* serogroup B (MenB), said method comprising:

15 15 (a) providing a population of molecules comprising a putative molecular mimetic of a unique epitope of MenB;
10 20 (b) contacting said population of molecules with the antibody of claim 1 under conditions that allow immunological binding between said antibody and said molecular mimetic, if present, to provide a complex; and
20 25 (c) separating the complexes from non-bound molecules.

25 12. The method of claim 11 wherein said population of molecules comprises a peptoid library.

13. The method of claim 11 wherein said population of molecules comprises a peptide library.

30 14. The method of claim 11 wherein said population of molecules comprises a phage-display library.

35 15. A molecular mimetic of a unique epitope of *Neisseria meningitidis* serogroup B (MenB), wherein said mimetic is isolated using the method of claim 11.

16. A molecular mimetic of a unique epitope of *Neisseria meningitidis* serogroup B (MenB), wherein said mimetic is comprised of an anti-idiotypic antibody molecule produced using the antibody molecule of claim 1.

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17. A molecular mimetic of a unique epitope of *Neisseria meningitidis* serogroup B (MenB), wherein said mimetic is comprised of a peptide having an amino acid sequence that is substantially homologous to a sequence selected from the group consisting of SEQ ID NOs. 1-66, 10 and SEQ ID NO. 67.

18. The mimetic of claim 17, wherein said mimetic is comprised of a peptide having an amino acid sequence that is substantially homologous to SEQ ID NO. 15 8.

19. A vaccine composition comprising a unique epitope of *Neisseria meningitidis* serogroup B (MenB) in combination with a pharmaceutically acceptable excipient. 20

20. A vaccine composition comprising a molecular mimetic of a unique epitope of *Neisseria meningitidis* serogroup B (MenB) in combination with a pharmaceutically acceptable excipient. 25

21. The vaccine composition of claim 20, wherein the molecular mimetic comprises an anti-idiotypic antibody molecule. 30

22. The vaccine composition of claim 20, wherein the molecular mimetic comprises a nucleic acid molecule.

23. The vaccine composition of claim 20,
wherein the molecular mimetic comprises a peptide
molecule.

5 24. The vaccine composition of claim 23,
wherein the peptide molecule has an amino acid sequence
that is substantially homologous to a sequence selected
from the group consisting of SEQ ID NOS. 1-66, and SEQ ID
NO. 67.

10 25. The vaccine composition of claim 19,
wherein said epitope is covalently bound to a carrier
molecule.

15 26. The vaccine composition of claim 20,
wherein said molecular mimetic is covalently bound to a
carrier molecule.

20 27. The vaccine composition of claim 23,
wherein said peptide molecule is covalently bound to a
carrier molecule.

25 28. The vaccine composition of claim 19
further comprising an adjuvant.

29. The vaccine composition of claim 20
further comprising an adjuvant.

30 30. A method for preventing *Neisseria*
meningitidis serogroup B and/or *E. coli* K1 disease in a
mammalian subject, said method comprising administering
an effective amount of the vaccine of claim 19 to said
subject.

31. A method for preventing *Neisseria meningitidis* serogroup B and/or *E. coli* K1 disease in a mammalian subject, said method comprising administering an effective amount of the vaccine of claim 20 to said 5 subject.

32. A method for preventing *Neisseria meningitidis* serogroup B and/or *E. coli* K1 disease in a mammalian subject, said method comprising administering 10 an effective amount of the vaccine of claim 23 to said subject.

33. A pharmaceutical composition comprising an antibody according to claim 1 in combination with a 15 pharmaceutically acceptable vehicle.

34. A method for treating or preventing *Neisseria meningitidis* serogroup B and/or *E. coli* K1 disease in a mammalian subject, said method comprising 20 administering an effective amount of the pharmaceutical composition of claim 33 to said subject.

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